

REMARKS

Interview Summary

Applicants appreciate the courtesy of in-person interview extended to the undersigned counsel on March 16, 2011 by the Examiner, Galina Yakovleva, Ph.D.,JD, and her supervisor, Mark Shibuya, Ph.D., JD.

Applicants discussed the Amendment filed on February 28, 2011, particularly the amended claims 28, 32 and 33. Dr. Yakovleva suggested some further claim amendments to address the indefiniteness rejection under 35 U.S.C. §112, second paragraph. Applicants substantially incorporated these suggestions into the claims included in this Supplemental Amendment.

The Examiners requested that Applicants identify support in the specification for the definition of a chimeric substance in claim 28. They also suggested the introduction of dependent claims directed to species of generic elements in the claims. Drs. Yakovleva and Shibuya asked that Applicants identify species which they believe to be patentable in view of prior art of record.

Dr. Shibuya indicated that in the Remarks section of the February 28, 2011 Amendments Applicants appeared to equate an “analyte” with a “probe substance”, which may be inconsistent with a customary meaning of “analyte”, i.e., a substance being analyzed.

Applicants pointed out several significant substantive differences between Van Beuningen et al., US 2006/0234229 (Van Beuningen) and their claimed invention. Van Beuningen, Applicants pointed out, discusses only detection of an analyte. In contrast, Applicants’ claims are directed to a method of capturing a biological substance or a method for capturing an intracellular biological substance.

In Applicants’ invention, an antibody is immobilized on a solid surface, while in Van Beuningen antibodies are not immobilized. See paragraphs 082 - 085 and 029. Applicants pointed out that, while in one instance Van Beuningen seems to suggest that antibodies are immobilized on a substrate (paragraph 0043), this suggestion appears inconsistent with the rest of the text of this patent publication.

Dr. Shibuya also asked that Applicants indicate support and enablement for the recitation in claim 32 of “introducing the chimeric substance into a cell”.

Amendments

Claims 28 and 32 are amended, support therefor being found in the specification, considered as a whole, e.g., in Fig. 1, pages 6-7, 9 and 27-29 and at pages 29-33, paragraphs 0107-0125. Support for new claims 37 – 42 is also found in the specification considered as a whole, In particular, claims 37 and 38 are supported by pages 12-13 and paragraph 0037; new claim 39 by pages 17-20; new claim 40 by page 23, paragraph 0079; new claim 41 by page 25, paragraph 0091; and new claim 42 by page 9, paragraph 0023. No new matter is introduced.

Claim Rejections 35 U.S.C. §112

Claims 28 and 32-33 are rejected under 35 U.S.C. 112, second paragraph as being indefinite for failure to particularly point out and distinctly claim the subject matter which applicants regard as their invention. Applicants respectfully submit that claims prior to their amendment herein were definite. The herein-amended claims continue to be definite.

Regarding Dr. Shibuya’s suggestion that Applicants’ use of the term “probe substance” as a synonym of “analyte” may be inconsistent with a customary meaning of “analyte”, Applicants respectfully point out that they are entitled to be their own lexicographers.

Responsive to Dr. Shibuya’s request for support and enablement in the specification for “introducing the chimeric substance into a cell” in claim 32, Applicants respectfully point out that the specification as a whole provides the requisite enablement and support for this recitation, e.g., pages 29-33, paragraphs 0107-0125.

Claim Rejection under 35 USC 102(e)

Claims 28, 32 and 33 were rejected as anticipated by Van Beuningen. Reiterating Applicants' arguments set forth at the interview, Applicants respectfully point out that Van Beuningen fails to anticipate Applicants' claims.

For example Van Beunigen discusses only detection of analytes (paragraphs 0053, 0054), while Applicants' claims are directed to a method of capturing a biological substance or a method for capturing an intracellular biological substance.

In Applicants' invention, an antibody is immobilized on a solid surface, while in Van Beunigen antibodies are not immobilized. See paragraphs 082 - 085 and 029. Although in one instance (discussed at the interview) Van Beunigen seems to suggest that antibodies are immobilized on a substrate, this appears inconsistent with the remainder this publication.

Further, the complex consisting of the analyte, the biotin, and an avidin-label conjugate in Van Beuningen is used just to detect the analyte (probe substance), which is captured by the target-molecule immobilized on the solid surface.

To the contrary, the chimeric substance of Applicants' invention functions as a reversibly detachable bridge between a biological substance to be captured and an antibody immobilized on the solid surface. The reversibly detachable bridge makes it possible to dissociate, dilute and recover the biological substance. This distinction is underscored by new claims 37 and 38.

For at least the reasons set forth above, Applicants respectfully submit their claimed method is novel in view of Van Beuningen, e. g., because of elements bonded to each other by the organic compound (or the linker) and the function of chimeric substance to recover the biological substance in Applicants' invention.

Conclusion

Applicants respectfully submit that all claims are in condition for allowance, an indication of which is solicited. In the event any outstanding issues remain, Applicants respectfully request that the Examiner contact their undersigned counsel to resolve such issues in an expeditious manner and place the application in condition for allowance.

The Commissioner is hereby authorized to charge any fees connected with this filing, which may be required now, including extension of time fees, or credit any overpayment to Deposit Account No. 50-2478 (039371-20).

Respectfully submitted,

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